

## **Assessment of Health and Safety Awareness Level of Occupationally Exposed Workers in a Radiology Department: A Case Study of a Ghanaian Hospital**

Imaging for medical purposes typically involves a team comprising radiologists, radiographers, sonographers, medical physicists, biomedical engineers, and other support staff working together to enhance the health of every patient they encounter. For best results and the assurance of quality, the imaging teams must adopt a multidisciplinary and integrative approach to work to assure patient safety but also importantly ensure worker safety and welfare. The Ionising Radiation Regulations 2017 (IRR17) of the United Kingdom (UK) compels employers to keep exposure to ionising radiations as low as reasonably practicable and must not exceed specified dose limits. Also, 2013/59/Euratom demands uniform basic safety standards for the protection of the health of individuals subjected to occupationally exposed health workers. In Ghana, the Nuclear Regulatory Authority (NRA) requires that, an appropriate personnel monitoring system should be provided for all occupationally exposed personnel.

The aim of the study was to assess the level of health and safety awareness among occupationally exposed workers in a diagnostic imaging department. A systematic approach involving administration of questionnaires, personal observations and focus group discussions was adopted to elicit information for the study.

Analysis of the gathered information, revealed that most of the respondents were aware of the health and safety issues with regards to the potential radiological risk emanating from exposure to ionizing radiation such as stochastic and genetic effects and also issues of risk communication in the radiology department. Good knowledge of the consequences of ionizing radiation and its effects among radiologist and radiographers was expected due to their level of education, training and experience due to several years of practice, and also introduction to radiation protection during their academic training. A senior radiographer acts as the Radiation Protection Officer (RPO), at the facility and handles all the radiation protection issues that arises.

The study indicated that 75% of the radiation protection safety measures which includes wearing of personal protective equipment (PPE), monitoring of staffs and dose optimization were present in the radiology department and majority (79%) of the respondents were aware of the radiation protection and safety measures. The overall awareness and knowledge of radiation was satisfying with definite possibilities for further improvements through regular trainings, workshops and continuing medical education (CME) programs related to radiation protection and safety.

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**Session Classification:** Session 12. Safety culture in occupational radiation protection

**Track Classification:** 17. Safety culture in occupational radiation protection